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SS-100 Serial Server Installation and Programming Guide

EMERSON
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SS-100 Serial Server Ver. 3.6/9

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1 Installing the SS-100

The CPC SS-100 Serial Server (P/N 570-2000) is a device that allows Retail Solutions REFLECS controllers (RMCC, BEC, or BCU) to communicate over a TCP/IP Ethernet network using the controller's serial port. Traditionally, REFLECS controllers have relied on a modem or a serial cable connection. With an SS-100 installed, the REFLECS can be integrated with a company's existing LAN or WAN.

A kit is included with the SS-100, which consists of:

- 5V power supply
- 9-pin (DB9) to 9-pin connector
- 9-pin to 25-pin (DB25) connector (STC)
- 10' DB9 serial cable
- 535-1190 DB9 computer to REFLECS controller laptop cable (UltraSite connection only)
- DB25 null modem adapter (HALComm connection only)
- DB9 female/female STC gender changer (HALComm connection only)

1.1. Working with the Network Administrator

Like other computers on the network to which it is attached, the SS-100 is also a network node. Because of this, it is important to work with the network administrator. Without the cooperation of the network administrator, it will be difficult to make the SS-100 function properly.

1.2. IP Address Specification

An IP address and subnet mask are denoted as a series of four decimal numbers separated with periods. Each number has a value between 0 and 255.

The following are ***examples*** of valid IP addresses and subnet masks. The actual numbers used as IP addresses ***must*** be determined by the network administrator.

IP Address	192.168.1.33
Subnet Mask	255.255.255.0
"Empty" IP Address	0.0.0.0

1.3. Network Considerations

Like any other node on the network, the SS-100 must be assigned an IP address. For this reason, the network administrator's input is required for the SS-100 installation. Obtain the following information from the network administrator before configuring the SS-100.

- SS-100 IP address (required)
- Subnet mask (required)
- Primary DNS IP address (may not be required)
- Secondary DNS IP address (may not be required)
- Primary gateway IP address (may not be required)
- Secondary gateway IP address (may not be required)

1.4. Ethernet Network Wiring and Wire Types

To connect the SS-100 to an existing Ethernet network, use the same standard Category 5 network cable used by the rest of the Ethernet network. If the SS-100 is being wired as part of a brand new network installation, consult your network administrator or IS technician for the proper wire type.

In either case, you will need to crimp an RJ45 connector to the end of the network cable segment that will connect to the SS-100.

2 SS-100 Wiring Requirements

Required Equipment:

- 110VAC/5VDC power transformer
- DB25/DB9 straight through connector (STC)
- 535-1190 DB9 computer to REFLECS controller laptop cable (UltraSite connection only)
- DB25 null modem adapter (HALComm connection only)
- DB9 female/female STC gender changer (HALComm connection only)
- Installation Guide
- RJ45 connection to a TCP/IP Network (not provid-

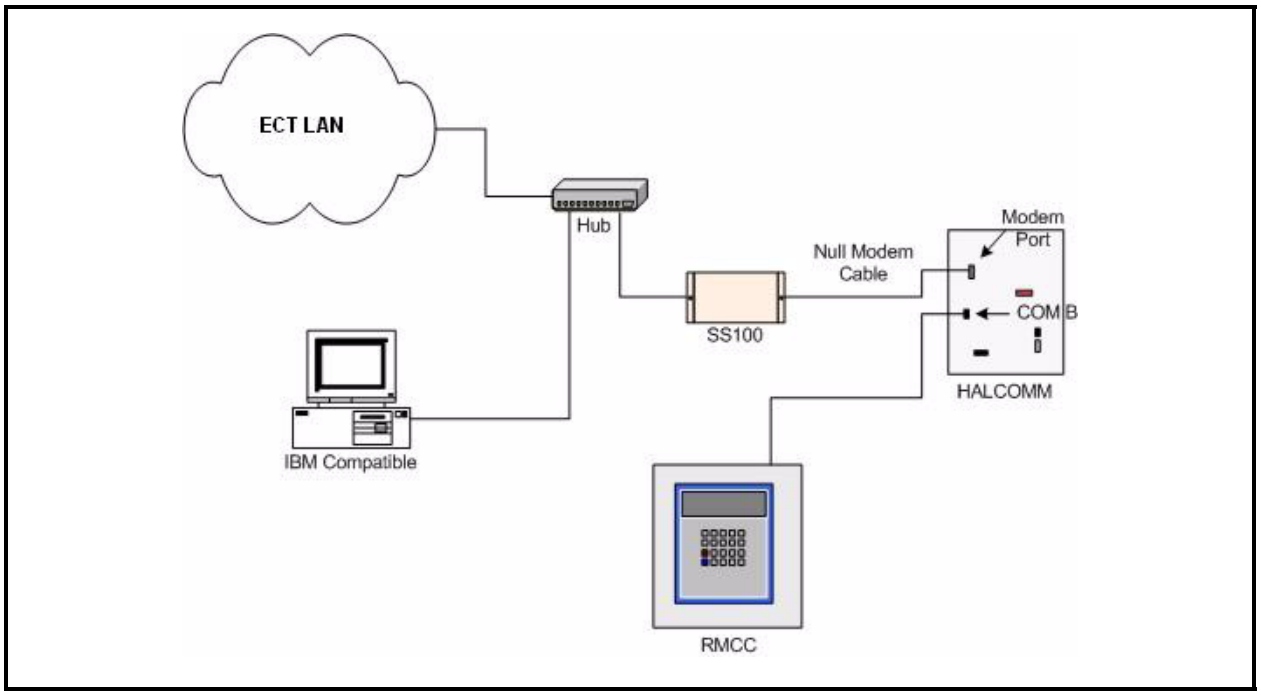
ed)

- DB-25/DB-9 female/female null modem cable (not provided)
- Static IP Address

Requirements for Computers Connecting to SS-100:

- IBM PC running Windows 9x/NT/XP/2000 set up on an IP network
- EzWebCon Installed (download from www.lantronix.com)
- UltraSite version 3.30 or higher (if using UltraSite)

2.1. SS-100 HALComm and UltraSite Wiring Layouts



Wiring Layout with HALComm

SS-100 Direct to HALComm Steps

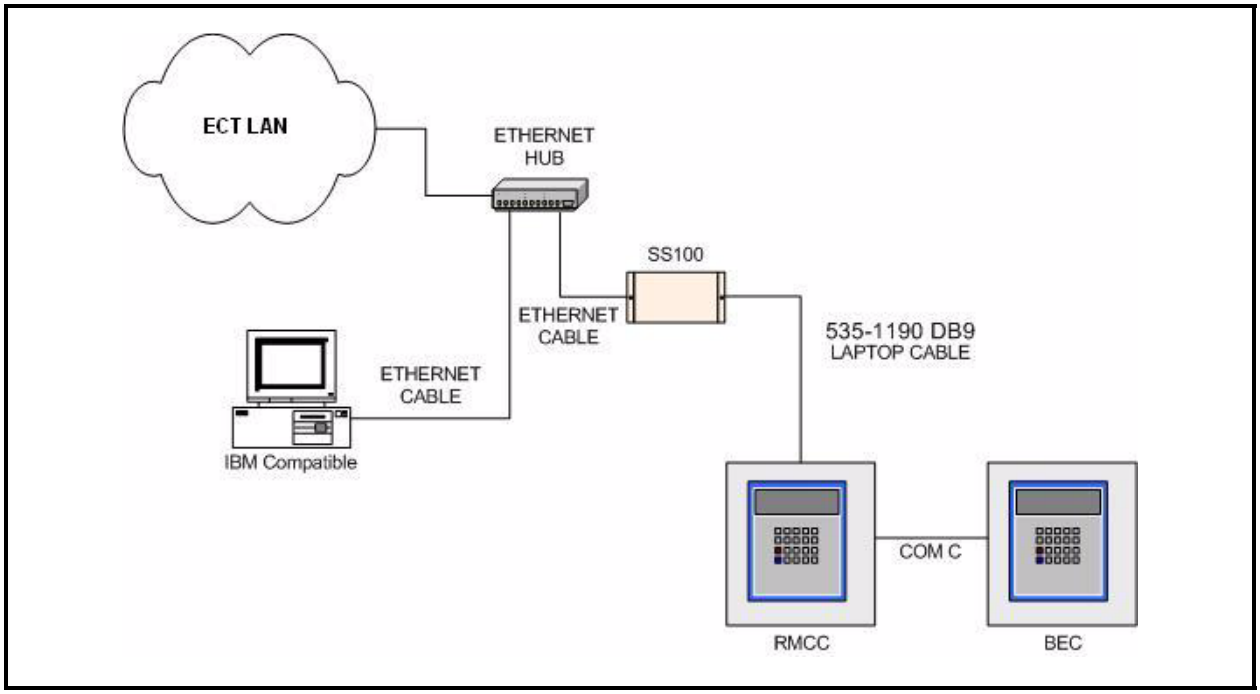
1. Connect 25-pin female end of DB-25 null modem adapter to the 25-pin male port of the SS-100.
2. Connect 25-pin female end of DB-25/DB-9 STC adapter to the 25-pin male end of the DB-25 null modem adapter.

NOTE: Using a DB-25/DB-9 female/female null modem cable (not provided) to connect the SS-100 to the Modem port on the HALComm controller will eliminate steps 2-6.

NOTE: Screws on the DB25 null modem adapter may need to be reversed for a correct connection with the DB25/DB9 STC adapter.

3. Connect female end of the 10' serial cable to the male end of DB-25/DB-9 STC adapter.
4. Connect DB-9 female/female STC gender changer to the male end of the 10' serial cable.
5. Connect the other end of the DB-9 female/female STC gender changer to the male 9-pin Modem port of the HALComm.
6. Use a standard ethernet cable to attach the SS-100 to an active hub of your TCP/IP network.

7. Plug 110VAC/5VDC power transformer into the SS-100.



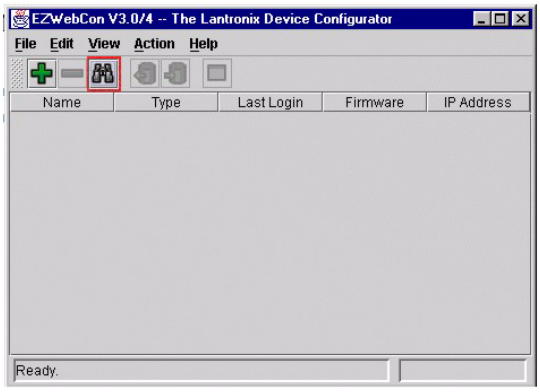
Wiring Layout with UltraSite

SS-100 to Reflecs Steps

1. Connect the 25-pin end of the D25/DB9 straight-through connector to the SS-100.
2. Connect the 9-pin female end of the laptop cable to the straight-through serial connector.
3. Connect the SS-100 to the hub using the RJ-45 able.
4. Plug the 4-position plugable connector into the Reflecs controller.
5. Plug 110VAC/5VDC power transformer into the SS-100.

3 Configuring the SS-100

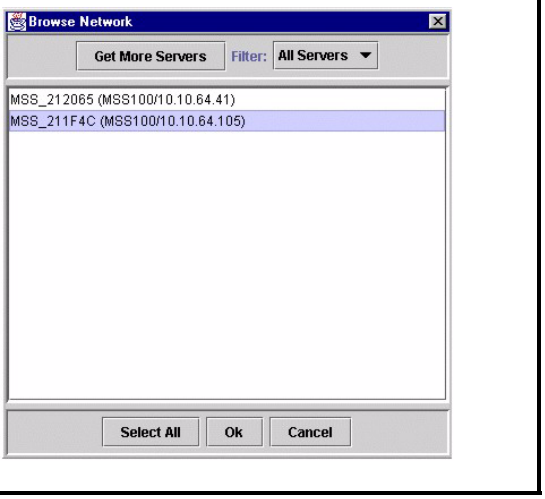
1. IMPORTANT: Download the latest version of EZWebCon from the Lantronix Web site **www.lantronix.com**.
2. Connect the SS-100 to the LAN and power up the unit.
3. Open EZWebCon on your computer (which must also be connected to the LAN) and click the binoculars icon (outlined in red) to find the allocated IP address of the SS-100:



Device Configurator (Search Tool Outlined)

NOTE: A search will locate all SS-100s on the network. Use the MAC address located on the back of the SS-100 to find the correct SS-100 in the list.

4. Choose the correct device on the Browse Network screen and then click **Ok**:



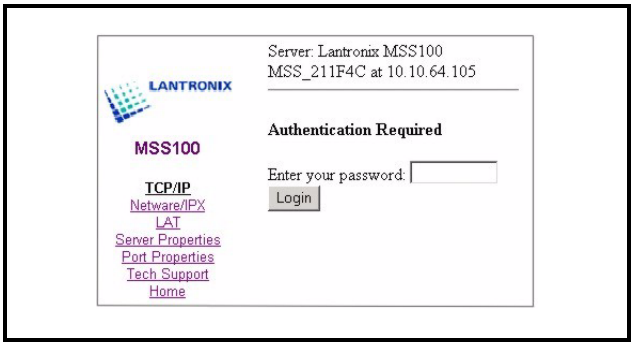
Choose and Highlight the Device

5. Verify that the firmware version number in the "Firmware" column is "3.6/9". If the firmware version shows any other number than "3.6/9," the SS-100 is the wrong version; contact Technical Service for instructions on upgrading.
   If the Firmware version is correct, proceed to **step 6**.
6. Highlight the device and select **Action>Manage** from the drop-down menu to open the Home screen:

Action Menu Displayed

7. When any of the links along the left-hand side of the screen are clicked the first time, you are prompted to the Password screen: enter the pass-

word (**system** is the default password) and click **Login**:

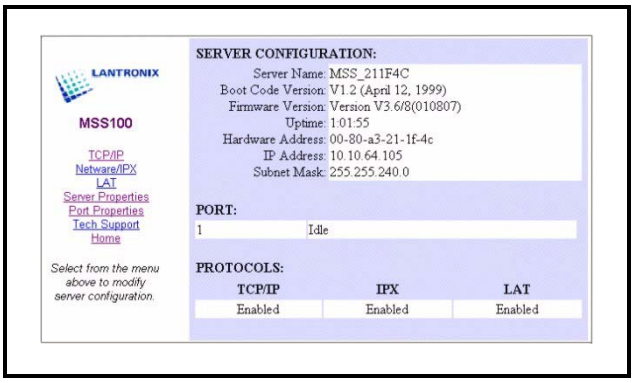


Password Screen

NOTE: The Password screen appears only once per session.

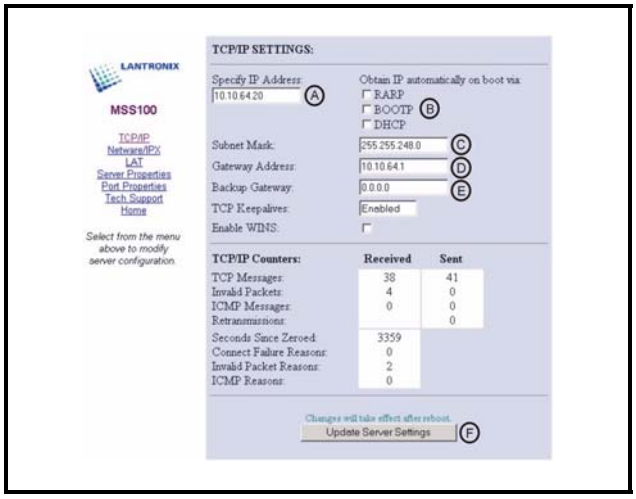
3.1. TCP/IP Setup

1. Click the **TCP/IP** link from the list along the left-hand side of the Home screen:



Home Screen

2. Contact your Network Administrator to go through the following steps. (Steps correspond to letters **A**, **B**, **C**, **D**, **E**, and **F** on the graphic below):



TCP/IP Settings

A. Specify the IP address.

B. Set **RARP**, **BOOTP**, and **DHCP** as specified by the Network Administrator. Enabling these settings may randomly change the IP address on boot-up.

C. Configure the gateway address in the **Gateway Address** field specific to the customer's network as specified by the Network Administrator.

D. Configure the subnet mask in the **Gateway Address** field specific to the customer's network as specified by the Network Administrator.

E. Configure backup gateway in the **Backup Gateway** field specific to the customer's network as specified by the Network Administrator.

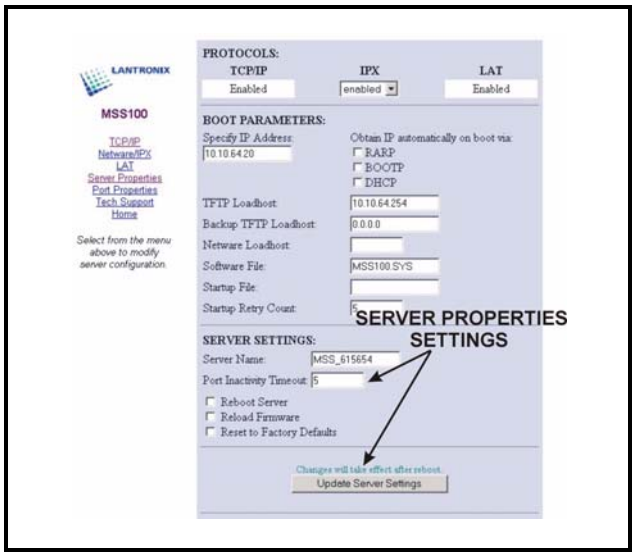
F. Click **Update Server Settings** to save the TCP/IP configuration.

NOTE: The IP address of the device has now changed. To connect to the new IP address, type the IP address into the browser.

3.2. Setting the Server Properties

1. Click the **Server Properties** link from the list along the left-hand side of the screen.

2. Set the **Port Inactivity Timeout** to **5** minutes under **Server Settings** and click the **Update Server Settings** button.



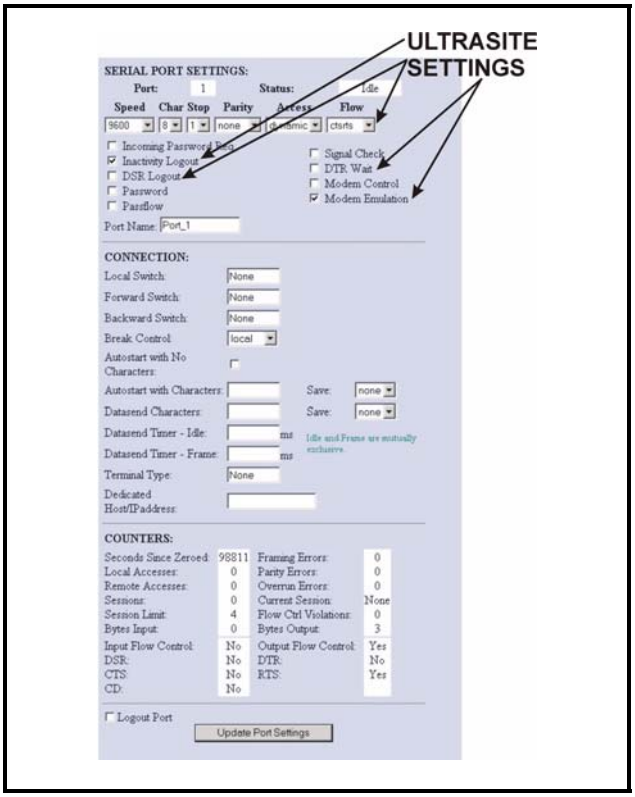
Server Settings Outlined in Red

3.3. Setting the Port Properties for UltraSite and HALComm in Lantronix

3.3.1. UltraSite

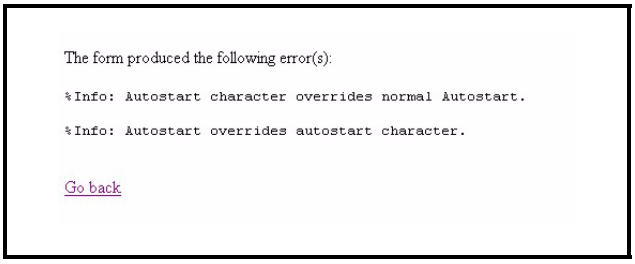
1. Click the **Port Properties** link (above graphic) from the list along the left-hand side of the screen.

If using UltraSite, set the following parameters on the Lantronix:



Serial Port Settings Screen for UltraSite

- Set the **Flow** drop-down list to **ctsrts**.
- Check the **Inactivity Logout** and **Modem Emulation** boxes.
- Click the **Update Port Settings** button.
- Click the **Go back** link to save the settings and go back to the Serial Port Settings screen.

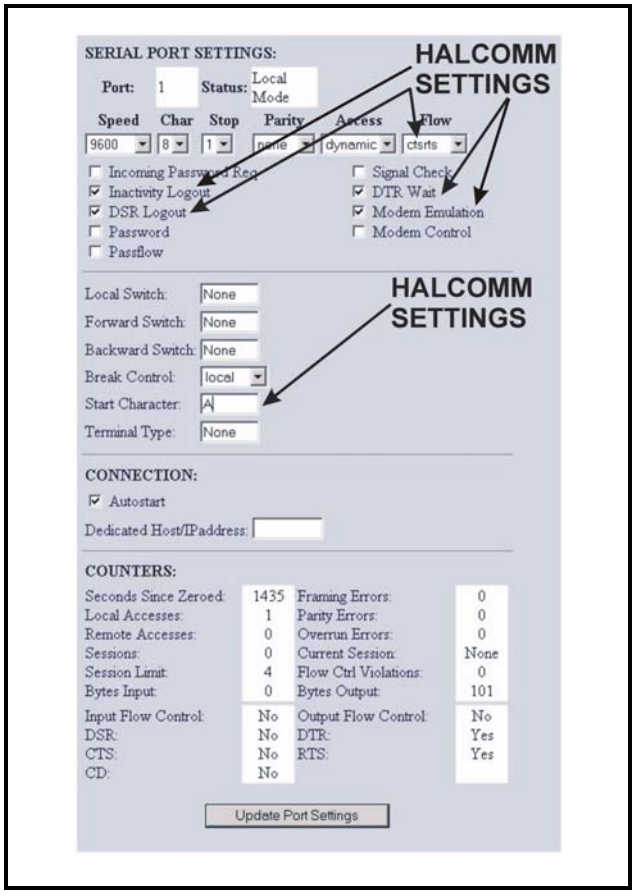


Go Back Screen

- Uncheck the **DSR Logout** and **DTR Wait** boxes.
- Click the **Update Port Settings** button.

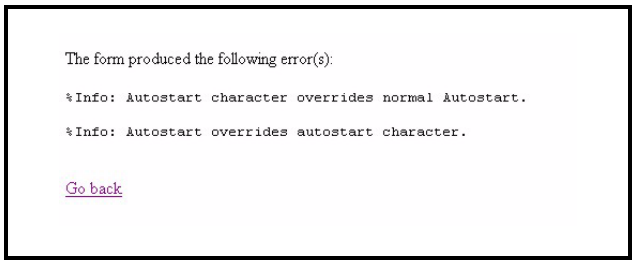
3.3.2. HALComm

If using HALComm, set the following parameters on the Lantronix:



Serial Port Settings Screen for HALComm

- Set the **Flow** drop-down list to **ctsrts**.
- Check the **Inactivity Logout** and **Modem Emulation** boxes.
- Type an **A** in the **Start Character** field.
- Click the **Update Port Settings** button.
- Click the **Go back** link to save the settings and go back to the Serial Port Settings screen.



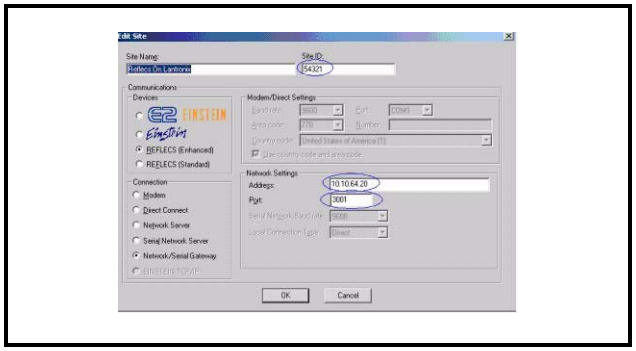
Go Back Screen

- Verify that the **DSR Logout** and **DTR Wait** boxes are now checked.

4 Reflecs

4.1. UltraSite32 Setup as Alarm Receiver for SS-100

1. Open UltraSite32 and add a site for the Reflecs controller that will be connected via Lantronix.
2. Right-click on a site in the Tree View and select **Edit Communications Information** to open the **Edit Site** screen:



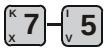
Edit Site Screen in UltraSite

3. Select the **Network/Serial Gateway** radio button under the **Connection** section along the bottom left of the screen.
4. Enter the IP address for the Lantronix in the **Address** field and **3001** in the **Port** field under **Network Settings**.
5. The site ID is used to match alarms to a site in the UltraSite32 database. Enter a site ID in the **Site ID** field. (Note that the site ID you enter must be unique. If the site ID entered is already assigned to another site, you will be prompted to enter a different site ID number.) *Do Not* leave the **Site ID** field blank: if left blank, no prompts to enter a different site ID number will appear, but the alarm receiving will not function correctly.
6. Connect to the site and do a site inventory. This will send the site ID to the Reflecs box. Note: Be aware that if any user connects to this site from their own stand-alone UltraSite32 and they have a site ID configured, the site ID in the Reflecs will be overwritten. This will effectively break the alarm receiver setup. Although not mandatory, an access code could be set up for the site as a security measure.
7. Open regedit from the Start menu and navigate to **HKEY_CURRENT_USER\Software\CPC\UltraSite32\Network**. Add a new dword value called **ReflecsSerialGatewayListenPort** and set it to the value of the port chosen.
8. Close and restart UltraSite to save port settings.

4.1.1. Troubleshooting

Close and restart UltraSite 32 if error messages regarding "failure to open a listening port" appear. This message indicates the port number is currently in use by another PC. Change the port number to one that is not in use.

4.2. BCU

1. Log on to the controller.
2. From the Main Menu screen, select **7. BCU Config** to open the Configuration screen and **5. Remote Comm** to access the RS-232 Communications Setup screen 

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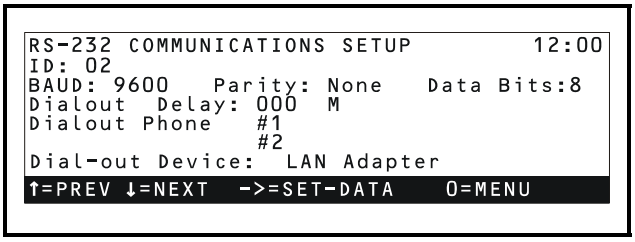

RS-232 Communications Setup Screen

3. Set **LAN Adapter** as the Dial-out Device.
4. Enter the Dial Strings in the **Dialout Phone #1** or the **#2** field. The format is **IpAddressHostName:PortT**. For example, if the UltraSite32 computer has a static IP address of 10.10.67.119 and it is listening on port 3026, then the dial string would be 10.10.67.119:3026T. (Note that the dial string *must* end in the letter **T**.)

4.3. BEC

1. Log on to the controller.
2. From the Main Menu screen, select **7. Configuration** to open the Configuration screen and **5.**

Communications to access the Communications Setup screen 7 – 5 :

```
   -COMMUNICATIONS SETUP-            12:00
UNIT#    02    Baud Rate 9600        N 8
Generic  Modem  String: AT&C1&FEOSO=1&D2
Init  String:    AT&C1&W
Dial-out  Device: LAN Adapter
Send  Now:  NO  Reset at Midnight:  N
Init Response:
↑=PREV ↓=NEXT  ->=SET-DATA    0=MENU
```

BEC Communications Setup Screen

3. Set **LAN Adapter** as the Dial-out Device.
4. Press **0** to go back to the Configuration screen.
5. Press **3. System Information** to open the BEC System Information screen.
6. Press the down arrow once and the second BEC System Information screen is displayed:

```
BEC SYSTEM INFORMATION                12:00
Phone number   #1:
               #2:
Delay Before Dial Out    000 m
DAYLIGHT SAVINGS MODE:  AUTOMATIC (USA)
DST MANUAL SET START  :  04/06/97
DST MANUAL SET FND    :  10/26/97
↑=PREV ↓=NEXT  ->=SET-DATA    0=MENU
```

BEC System Information Screen

7. Enter the Dial Strings in the **Phone number #1** or the **#2** field. The format is **IpAddressHostName:PortT**. For example, if the UltraSite32 computer has a static IP address of 10.10.67.119 and it is listening on port 3026, then dial string would be 10.10.67.119:3026T. (Note that the dial string *must* end in the letter **T**.)

4.4. RMCC

1. Log on to the controller.
2. From the Main Menu screen, select **7. Configuration** to open the Configuration screen and **4. Remote Communication** to access the Communications Setup screen 7 – 4 :

```
   -COMMUNICATIONS SETUP-            12:00
UNIT#    02    Baud Rate 9600        N 8
Generic  Modem  String: AT&C1&FEOSO=1&D2
Init  String:    AT&C1&W
Dial-out  Device: LAN Adapter
Send  Now:  NO  Reset at Midnight:  N
Init Response:
↑=PREV ↓=NEXT  ->=SET-DATA    0=MENU
```

RMCC Communications Setup Screen

3. Set **LAN Adapter** as the Dial-out Device.
4. Press **0** to go back to the Configuration screen.
5. Press **3. System Information** to open the RMCC System Information screen.
6. Press the down arrow five times and the Dialout Setup screen is displayed:

```
        ---DIALOUT SETUP---           12:00
Change Baud Rate when dial to 9600 -NO
Day Phones:    1.
               2.
Night Phones   1.
               2.
Use From NONE to NONE    ,  Sat-N,  Sun-N
↑=PREV ↓=NEXT  ->=SET-DATA    0=MENU
```

RMCC Dialout Screen

7. Enter the Dial Strings in the **Day Phones 1** or **2** fields or the **Night Phones 1** or **2** fields. The format is **IpAddressHostName:PortT**. For example, if the UltraSite32 computer has a static IP address of 10.10.67.119 and it is listening on port 3026, then dial string would be 10.10.67.119:3026T. (Note that the dial string *must* end in the letter **T**.)